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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,431	09/11/2003	Geun-Yong Park	1349.1307	4099
21171	7590	03/30/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			PHAM, HAI CHI	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,431

Applicant(s)

PARK, GEUN-YONG

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7-10, 12-15, 17-26 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-5, 7, 9, 10, 12-15, 17 and 20-24 is/are allowed.
- 6) ☒ Claim(s) 8, 18, 19, 25, 26 and 29-34 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 8, 18, 33-34 is withdrawn in view of the newly discovered references to Yamakawa (JP 6-127020) and Hattori (Pub. No. U.S. 2004/0100547). Rejections based on the newly cited references follow.
2. The finality of the previous Office action is therefore withdrawn due to the new rejections based on the above-mentioned references.

Claim Objections

3. The following claims are objected to because of the following informalities:

Claim 7:

- Line 12, "body" should read --printer body-- so as to keep the consistency of the claimed language.

Claim 8:

- Line 12, "body" should read --printer body-- so as to keep the consistency of the claimed language.

Claim 12:

- The following limitation "further comprising a printer body comprising" should read --wherein said printer body comprises-- since the printer body has been already recited in the base claim 17 as amended.

Claim 17:

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- The following limitation "further comprising a printer body to support" at line 17 should read --wherein said printer body supports-- since the printer body has been recited earlier within claim 17.

Claim 18:

- It is suggested to move the following limitations "a printer body to support the hinge portions ... a second adjusting unit provided on the printer body" recited at lines 3-5 to a location before the last paragraph of the claim.

Claim 31:

- Claim 31 should claim dependency from claim 30 instead of claim 29 since the "support" for supporting the hinge is recited in claim 30.

Claim 32:

- Claim 32 should also claim dependency from claim 30 instead of claim 29 since the "support" for supporting the hinge is recited in claim 30.

Claim 34:

- Line 3, "the printer body" should read --a printer body--.
Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- The following limitation “guiding rings at end portions of the screws which are attached to the inclined surfaces” appears to be misleading. As shown in Fig. 4, the guiding ring (35), a part of the screw, is made to contact the inclined surface (31) of the scan unit. The applicant is advised to look at the claimed language used in claim 9 for the similar limitation.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

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Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claim 34 is rejected under 35 U.S.C. 102(e) as being anticipated by Hattori (Pub. No. U.S. 2004/0100547).

Hattori discloses a sub-assembly of a laser scan unit (scanning unit 13) comprising a hinge portion (front side groove 54) provided at a first side of the scan unit to pivotably dispose the laser scan unit on a printer body (main casing 2 of the printer) wherein the hinge portion is formed as a groove (groove 54), a hinge supporting portion (first positioning member or shaft 46) that supports the groove, and an adjusting portion on a second side of the laser scan unit opposite to the first side to adjust an amount by which the laser unit pivots (the second positioning member 47 disposed on the back side of the scanning unit 13 adjusts an amount by which the laser unit pivots around the first positioning member 46, the second positioning member 47 being composed of a screw fitting into the rear side groove 55 of the scanning unit) (paragraphs [0095]-[0097]).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 8, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okugawa et al. (U.S. 6,600,504) in view of Yamakawa (JP 6-127020).

Okugawa et al. discloses an image forming apparatus containing a plurality of laser scan unit assemblies (30y, 30M, 30C, 30K) enclosed in a printer body (Fig. 1), each of the laser scan units having a window (34, Fig. 2) on a front surface thereof through which a corresponding laser beam is emitted, a hinge portion (shaft 603) (Fig. 13) provided at a first side of the laser scan unit to pivotably dispose the laser scan unit on the printer body, and an adjusting portion (driving screw 609) on a second side of the laser scan unit opposite to the first side to adjust an amount the laser scan unit pivots to position the laser beams from the respective laser scan units to be parallel (when the screw 609 is driven to rotate, the frame body 604 of the laser scan unit 30 rotates around shaft 603 so as to adjust an inclination of each of the laser beams in the main scanning direction as well as an inclination of the main scanning line on the surface to be scanned such that all the main scanning lines are parallel with the main scanning direction) (see Embodiment 4 and related discussions starting at col. 16, line 60) (see also col. 6, lines 14-22 for the adjustment of the inclination of the laser beams).

With regard to claim 18, Okugawa et al. teaches the image forming apparatus containing a plurality of laser scan unit assemblies (30y, 30M, 30C, 30K) enclosed in a printer body (Fig. 1), a photosensitive body (belt-shaped photoreceptor 1) on which an image is formed by the plurality of laser beams, a developing apparatus (4) to develop the image formed on the photosensitive body and to transfer the

developed image onto a paper (recording sheet P), a paper convey apparatus (roller pair 23) to convey the paper to the developing apparatus.

However, Okugawa et al. fails to teach the adjusting portion including a first adjusting unit as a screw provided on the laser scan unit and a second adjusting unit as an inclined surface.

Regardless, Yamakawa discloses a laser scan unit having a screw (9) connected to the guiding ring provided at one end of the scan unit (housing 20), and an inclined surface (10) provided in the printer body to move that end of the scan unit up and down (Fig. 1).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the adjusting unit of the device of Okugawa et al. to include an inclined surface as taught by Yamakawa. The motivation for doing so would have been to allow the adjusting screw to move the end of the scan unit to the desired level.

10. Claims 25-26, 29-30, 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okugawa et al. in view of Yamakawa.

Okugawa et al. discloses in Fig. 26a an apparatus comprising a scan unit (cylindrical lens 838) to emit a laser beam (the cylindrical lens 838 scans the surface of photoreceptor with a laser beam), a hinge (shaft 838a) to pivotably support the scan unit, an adjusting portion to adjust an amount of pivot of the hinge (an adjusting screw

841b provided at an end of the cylindrical lens holder to adjust the inclination of the cylindrical lens).

Okugawa et al. fails to the adjusting portion including an inclined surface in contact with the screw, the hinge and the adjusting unit being located at opposite side.

Regardless, Yamakawa discloses a laser scan unit having a screw (9) connected to the guiding ring provided at one end of the scan unit (housing 20), and an inclined surface (10) provided in the printer body so as to move that end of the scan unit up and down (Fig. 1).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the adjusting unit of the device of Okugawa et al. to include an inclined surface as taught by Yamakawa. The motivation for doing so would have been to allow the adjusting screw to move the end of the scan unit to the desired level.

Okugawa et al. further teaches:

- The adjusting portion comprising a nut (nut 843) to support the screw,
- A support to support the hinge (V-shaped supporting shaft section 831b),
- The support is a V-shaped groove (V-shaped supporting shaft section 831b) and the hinge is a shaft (shaft 838a).

11. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okugawa et al. in view Of Yamagawa, as applied to claims 25, 29 above, and further in view of Hattori.

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Okugawa et al. in view Of Yamagawa, discloses all the basic limitations of the claimed invention except for the hinge being a V-shaped groove and the support for the hinge being a shaft.

Hattori discloses a scanning unit (13) comprising a hinge disposed on the front end of the unit being formed as a V-shaped groove (54) and the support for the hinge being a shaft (shaft 46) around which the scanning unit is pivotably adjusted.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Okugawa et al. by incorporating the hinge as a V-shaped groove integral to the scanning unit and the hinge support as a shaft as taught by Hattori since Hattori teaches this to be known in the art as an alternative hinge configuration, the incorporation of which would require only routine skill in the art.

Allowable Subject Matter

12. Claims 2-5, 7, 9-10, 12-15, 17, 20-24 are allowed.
13. Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
14. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments with respect to claims 8, 18-19, 25-26 and 29-34 have been considered but are moot in view of the new grounds of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER
March 28, 2006